IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

ESTATE OF KENNETH GRIFFIN, et al., Plaintiffs,	:	
v.	:	CIVIL ACTION
ISAAC HICKSON, et al., Defendants.	:	NO. 98-3805

Memorandum and Order

YOHN, J. May ___, 2002

Presently before the court is defendants' motion in limine to preclude the admission of the "Holmesburg experiments"[1] and any testimony concerning the experiments and their putative results. For the reasons that follow, the motion will be granted.

I. Background

This case stems from the September 26, 1997 shooting death of Kenneth Griffin in the basement of his mother's home at 627 Lippincott Street in Philadelphia, Pennsylvania. While I find it unnecessary to recount fully the facts of this case for purposes of rendering a decision on the instant motion, suffice it to say that Griffin, who was being sought in connection with a parole violation, was shot by agents Isaac Hickson and Robert Martinez of the

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[1] Both parties have referred to the experiments in the singular form, i.e., as one experiment. However, because the weapons belonging to agents Hickson and Martinez were tested independently, I will use the plural in referring to the Holmesburg "tests" or "experiments" throughout this memorandum.

Pennsylvania Board of Probation & Parole ("PBP&P"), who were standing 12-13 feet from him at the time. *See* Plaintiff's Response in Opposition to defendants' Motion for Summary Judgment ("Pls.' Response") at 12-13 (citing Deposition of Agent Robert Martinez at 287). Plaintiffs–Griffin's estate and survivors–allege that this shooting was unreasonable and without provocation, and bring this action pursuant to 42 U.S.C. § 1983 against Hickson, Martinez, and James Hines,[2] a third PBP&P agent who also was in the basement at the time of the shooting. They allege that Griffin was deprived of his Fourth Amendment right to be free from excessive force, and that they were deprived of their own Fourteenth Amendment rights to associate with him.

Defendants seek qualified immunity, asserting in relevant part that Griffin fired a gun at them immediately before they returned his fire, and as evidence of such they note that two particles of gunshot residue ("GSR") were found on Griffin's right hand. *See* Defendants' One Page Summary of Contentions ("Defs.' Contentions"). Defendants argue that these particles establish conclusively that Griffin fired at them, and thus that they acted reasonably in shooting him. Motion in Limine at 3.

Yet while plaintiffs concede that the presence of these particles necessarily means that Griffin had "handled a firearm or was in close proximity to a firearm when it discharged," Plaintiffs' One Page Summary of Contentions ("Pls.' Contentions"), they dispute vigorously defendants' account of the particles' source. Indeed, plaintiffs posit that the GSR particles were projected by the guns used by Hickson and Martinez when they shot Griffin, and as support for this proposition they rely on what have been termed the "Holmesburg experiments."

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[2] These individuals are defendants in their personal capacities only.

On May 11, 1998, members of the Philadelphia Police Department tested the guns used by Hickson and Martinez in connection with the shooting of Kenneth Griffin to determine the distance over which each weapon was capable of projecting GSR. Motion in Limine at 11. These tests were performed at the indoor pistol range of the Holmesburg Fish & Game Protective Association, and the methodology employed was exceedingly simple. In conducting the experiments, the Philadelphia Police officers used SEM/EDX test kits, which consist of "a series of small aluminum stubs which have . . . an adhesive material on the flat surface of the stub." Deposition of Luis J. Szojka ("Szojka Dep.") at 30. Stubs were placed at 3 foot intervals, with the first being "approximately beneath the barrel of the pistol" and the last being "approximately 21' in front of the barrel of the pistol." Motion in Limine at Exhibit 9. After each weapon was fired, the stubs were analyzed for the presence of GSR. In the tests conducted on both guns, the stubs located 18 and 21 feet from the barrel of the pistol tested positive for GSR. Pls.' Contentions; Motion in Limine at 14-15. Based on this result, plaintiffs aver that the weapons used by agents Hickson and Martinez were capable of depositing the GSR particles on Griffin. *See* Plaintiffs' Joint Response and Memorandum of Law in Response to Motion of Defendants to Preclude Admission of Evidence of Law Enforcement Testing of Gunshot Residue Propulsion from the Weapon[s] of Defendants ("Joint Response") ¶¶ 5-6.

Defendants advance four primary arguments against the admissibility of the Holmesburg experiments. First, they contend that expert evidence is necessary to establish the tests' relevance and reliability. Specifically, they posit, expert testimony is needed to demonstrate 1) that "the gunshot residue that was found at various distances . . . came from the agents' guns and not from the billions . . . of gunshot residue particles already in the pistol

range"; 2) that the agents' guns always release the same amount of GSR; 3) the effect of the ventilation in the range on the distance traveled by the GSR particles; and 4) the effect of the actions of the persons present during the experiment on the distance traveled by the GSR particles. Motion in Limine at 15, 22-23. The agents assert, however, that plaintiffs lack a GSR expert, and that the results of the experiments therefore should be excluded. *Id.* at 12-14, 23.

Second, defendants argue that the experiments are not relevant as evidence that the GSR found on Griffin's hand was projected from the agents' weapons.[3] This is so, they contend, because the conditions under which the tests were conducted were not "substantially similar" to those present in the basement during the early hours of September 26, 1997. *Id.* at 17-24. In particular, they reiterate that unlike the basement in which Kenneth Griffin was shot, the range was dusted with innumerable GSR particles. *Id.* at 21-22. They also note that it has not been established that the ventilation patterns in the range were analogous to those in the basement, a variation that could significantly affect the distance that GSR particles travel. *Id.* at 22-23.

Third, the agents contest the experiments' reliability.[4] In particular, they point to the lack of a control measure against which to gauge the results of the tests, and they further stress that the experiments were conducted in a contaminated environment. *Id.* at 15-17.

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[3] I will interpret this contention as challenging the admissibility of the experiments pursuant to Fed. R. Evid. 402.

[4] I will interpret this contention as challenging the admissibility of the experiments pursuant to Fed. R. Evid. 702 and *Kuhmo Tire*. *See* Fed. R. Evid. 702 (requiring that expert testimony be the product of "reliable principles and methods"); *Kuhmo Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 147 (1999) (requiring that expert technical testimony be "'not only relevant, but reliable'"(quoting *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 589 (1993))).

Hickson, Martinez and Hines aver that because the pistol range is used daily by numerous shooters, there are literally billions of GSR particles on every surface of the range, and it therefore is impossible to ascertain with certainty that the particles found on the stubs originated in the weapons being tested. *Id.* at 16.

Fourth, defendants posit that even if they do entail some probative value, the experiments should be precluded from admission because any such value is substantially outweighed by the likelihood that evidence regarding the tests would unfairly prejudice the jury. *Id.* at 24-25.

Plaintiffs respond by asserting that they "do not seek to present an expert opinion that the gunshot residue could only have come from the weapons of the defendants," and that instead they "merely seek to present evidence that the Defendants' weapons were tested after the killing of Griffin and shown to project gunshot residue the specified distances, which exceed the distance of Griffin's shooting." Joint Response ¶ 7. They further stress that the GSR samples were collected from the stubs, and not from any interior surface of the firing range. *Id.* ¶ 9. They also assert in general terms that the procedures employed in connection with the Holmesburg experiments are reliable, and that several witnesses are available to confirm the validity of the procedures used.[5]

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[5] On April 22, 2002, the court held a hearing to assess the evidentiary issues associated with the Holmesburg experiments. During the course of that proceeding, plaintiffs raised an argument as to the experiments' admissibility that they previously had not advanced, namely that the written report prepared to convey the results of the experiments falls within the scope of Fed. R. Evid. 803(8), and that it accordingly is admissible. In support of this assertion they relied on the holding of the United States Supreme Court in *Beech Aircraft Corp. v. Beech Aerospace Servs., Inc.*, 488 U.S. 153 (1988) and that of our Court of Appeals in *Clark v. Clabaugh*, 20 F.3d 1290 (3d Cir. 1994).

This argument, however, is unavailing. Even assuming that this report does fall

II. Discussion

In evaluating the instant motion, I will address the agents' arguments seriatim.

A. The Need for Expert Testimony

The first question to be answered in evaluating defendants' motion is whether expert testimony is needed to render the experiments admissible. In order to resolve this issue, it is necessary to specify exactly what it is that defendants seek to establish by introducing the tests.

To reiterate, plaintiffs indicate that they "do not seek to present an expert opinion that the gunshot residue could only have come from the weapons of the defendants," and that instead they "merely seek to present evidence that the Defendants' weapons were tested after the killing of Griffin and shown to project gunshot residue the specified distances, which exceed the distance of Griffin's shooting." Joint Response ¶ 7. This disclaimer notwithstanding, however,

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within the ambit of Rule 803(8), this does not mean that it is admissible without regard to its trustworthiness. As noted by the *Beech Aircraft* Court, Rule 803(8) contains a "provision for escape" where a public record or report possesses indicia of untrustworthiness. 488 U.S. at 448. Specifically, this provision "is contained in the final clause of the Rule: evaluative reports are admissible 'unless the sources of information or other circumstances indicate lack of trustworthiness.' This trustworthiness inquiry . . . was the [Advisory] Committee's primary safeguard against the admission of unreliable evidence, and it is important to note that it applies to all elements of the report." *Id.* at 448-49 (quoting Fed. R. Evid. 803(8)(C)). It is true, as plaintiffs noted at the evidentiary hearing, that "Rule 803(8) does not . . . require that the one who undertakes the investigation and authors the report be qualified as an expert before the report becomes admissible . . . ." *Clark*, 20 F.3d at 1294. Indeed, only when "'the party challenging the validity of [the] official report . . . come[s] forward with some evidence which would impugn its trustworthiness'" may "'an objection to the opinion testifier's expert qualifications . . . be recognized.'" *Clark*, 20 F.3d at 1295 (quoting *Melville v. Am. Home Assur. Co.*, 584 F.2d 1306, 1316 (3d Cir. 1978)). However, in the instant matter, defendants have raised numerous arguments, all of which are recounted above, that impugn the trustworthiness of the report in question. As such, the onus lies with plaintiffs to make the evidentiary showings required to warrant the report's admission.

the fact plaintiffs seek to establish–that the guns used by Hickson and Martinez projected GSR 18 to 21 feet during the tests–cannot possibly be substantiated in the absence of two secondary showings. First, plaintiffs must demonstrate[6] that the substance found on the stubs placed at those distances was in fact GSR. Second, they also must establish that the GSR found on the stubs placed at those distances is not attributable to the abundant GSR that was otherwise present at the pistol range. For the reasons detailed below, I conclude that the first showing cannot be made except through expert testimony. Yet there are two ways in which the second showing conceivably could be made, one of which would not require expert evidence. Insofar as defendants assert otherwise, that contention is unpersuasive.

As stated by the Third Circuit, "[a]s a general principle, '[e]xpert evidence is not necessary . . . if all the primary facts can be accurately and intelligibly described to the jury, and if they, as [persons] of common understanding, are as capable of comprehending the primary facts and of drawing correct conclusions from them as are witnesses possessed of special or peculiar training of the subject under investigation.'" *Oddi v. Ford Motor Co.*, 234 F.3d 136, 159 (3d Cir. 2000) (quoting *Padillas v. Stork-Gamco, Inc.*, 186 F.3d 412, 415-16 (3d Cir. 1999)); *see also* Fed. R. Evid. 702;[7] Charles Alan Wright & Victor James Gold, *Federal Practice and*

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[6] The burden lies with the proponent of evidence to demonstrate by a preponderance of the evidence its reliability. *See generally In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 744 (3d Cir. 1994).

[7] Fed. R. Evid. 702 provides, in full, that:

> If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and

Procedure § 6274 (1997) ("[E]xperts are needed where the testimony concerns complex matters that challenge the comprehension of lay people."); *id.* § 6253 ("[An] opinion should be classified as an expert opinion if the witness arrived at the opinion through the application of special skill or erudition beyond the realm of common knowledge.").

In this case, the need for expert testimony as to the identity of the substance found on the 18 and 21 foot stubs is obvious. This substance was identified as GSR through the use of scanning electron microscopy ("SEM"), *see* Motion in Limine at Exhibit 7, a technology that unquestionably is outside the scope of a layperson's familiarity. Indeed, in every case of which the court is aware, expert testimony has been required to interpret the results of a SEM test as indicating the presence of GSR. *See, e.g., State v. Scott*, 2001 WL 1122072, at **13-14 (Ohio Ct. App. Sept. 21, 2001); *People v. Rugley*, 2000 WL 33534617, at *2 (Mich. Ct. App. Feb. 8, 2000). *Cf. Pride v. BIC Corp.*, 218 F.3d 566, 571 (6th Cir. 2000) (discussing an expert's use of SEM technology for a purpose of microscopic visual analysis of a substance other than GSR); *Fusco v. General Motors Corp.*, 11 F.3d 259, 266 (1st Cir. 1993) (same). As such, plaintiffs must introduce the SEM results in this case via expert testimony. Because it appears that plaintiffs are not prepared to do so,[8] the experiments and their results are inadmissible. This conclusion alone compels the court to grant defendants' motion.

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methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

[8] Earlier in this litigation, plaintiffs designated Richard Saferstein as a testifying expert witness, but on February 16, 2001 they stipulated that they were withdrawing him. *See* Motion in Limine at Exhibit 4. There is no indication that they have procured an equivalent witness in lieu of Dr. Saferstein.

Expert evidence is unnecessary, however, in the context of the second showing necessarily made by plaintiffs, i.e., that the GSR on the stubs was projected by the agents' weapons, and was not mere contamination from the ambient GSR in the Holmesburg range. As indicated above, there are two ways in which plaintiffs could establish this fact. First, they could establish that handguns leave some unique, discernible "fingerprint" on the GSR that they discharge. This effect would be analogous to the signature markings left by guns on bullet casings. *See generally United States v. Hughes*, 211 F.3d 676, 683 (1st Cir. 2000) ("[A] gun leaves unique marks on a spent shell casing somewhat akin to a fingerprint."). Just as expert opinion is needed to establish that a given shell casing was fired by a particular gun, there is no mean by which a lay person could identify a chemical signature left by a particular weapon on the GSR it ejects. In fact, it may well be the case that it is not possible for even an expert to do so, as plaintiffs have presented–and the court knows of–no evidence that guns do in fact leave a "fingerprint" on GSR they expel.

But there is a second, far simpler means by which plaintiffs could establish the source of the GSR on the 18 and 21 foot stubs: they could conduct a controlled experiment.[9]

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[9] In general terms, the use of a control measure is critically important in ensuring the reliability of any scientific or technical experiment. *See generally United States v. Jakobetz*, 955 F.2d 486, 798 (2d Cir. 1992) (discussing the "careful[] use[] of controls throughout the [DNA] experiment in order to assure reliability"); *United States v. Tranowski*, 659 F.2d 750, 757 (7th Cir. 1981) ("The trial court should not be used as a testing ground for theories supported neither by prior control experiments nor by calculations with indicia of reliability."). Indeed, the facts of this case illustrate precisely why this is so. Given that the interior surfaces of the Holmesburg pistol range are covered with GSR, and that it likely is impossible to identify through some sort of chemical "fingerprint" the weapon that emitted a given GSR particle, a non-controlled test is incapable of determining whether the GSR found on the 18 and 21 foot stubs was ejected by the defendants' weapons or whether the particles already on the range were disturbed and came to rest on those stubs. Conversely, if a control were added to the experiment,

This could be accomplished simply by testing the weapons in the manner of the Holmesburg experiments, placing two additional series of stubs in the range where they would not be exposed to any GSR emitted by the agents' weapons–one just before and the other just after the test firing–and determining how much, if any, GSR is collected by these additional stubs. If the stubs gathering the discharge from the weapons collect a given amount of GSR, and those not subjected to the emissions of those guns collect either no or a substantially smaller amount of GSR, this would tend to establish the agents' pistols as the source of the GSR on the 18 and 21 foot stubs. Such an experiment would be well within the comprehension of a typical juror, and as such, expert evidence would not be required to introduce its results. The suggestion that an experiment meeting the above description would be adequately controlled seems persuasive to the court. There may well be other means to accomplish the same result (or other objections to the above procedure not presently apparent to the court).

Defendants also are incorrect in asserting that expert testimony is needed to introduce evidence that the agents' weapons expel a consistent amount of GSR. This is so because it is not necessary for plaintiffs to introduce such evidence at all. Indeed, whether the guns belonging to Hickson and Martinez project a consistent amount of GSR is irrelevant to the question of whether they projected GSR 18 to 21 feet during the experiments. Moreover, even assuming that the amount of GSR emitted by the agents' weapons does vary, this similarly is inapposite to the question of the tests' relevance. Indeed, any variation of this sort does not bear

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this question would become easily resolved, as a comparison of the quantity of GSR on the 18 and 21 foot stubs with that on the stubs not exposed to the firing of the agents' guns would eliminate the ambient GSR as a source of that found on the 18 and 21 foot stubs.

on the question of whether the conditions present in the Holmesburg range mirrored those in the basement at the time of Griffin's shooting; such a discrepancy would be a characteristic of the guns themselves, not of the conditions under which they were tested.

However, defendants probably are correct in arguing that expert evidence is necessary to establish the "relevance" of the experiments. While relevance is a threshold determination properly made by the court, *see* Fed. R. Evid. 104(a), such is not the case "[w]hen the relevancy of evidence depends upon the fulfillment of a condition of fact . . ." Fed. R. Evid. 104(b). In this case, the relevance of the experiments turns on whether the conditions under which the Holmesburg experiments were conducted were substantially similar to those in the basement at the time of the shooting. Indeed, in general terms, a party attempting to establish the relevance of any experiment must "prove that the experiment or demonstration was conducted under substantially similar circumstances as the actual event." *Russo v. Mazda Motor Corp.*, 1992 WL 309630, at *2 (E.D. Pa. Oct. 19, 1992) (citing *Jackson v. Fletcher*, 647 F.2d 1020, 1027 (10th Cir. 1981) and 2 John W. Strong, et al., *McCormick on Evidence* § 212, at 9-10 (4th ed. 1992) ("*McCormick on Evidence*")). As explained below, it is probable that an expert's knowledge of the properties of GSR is necessary to establish whether such similarity exists between the conditions in the range and those in the basement on the morning of September 26, 1997. Accordingly, expert testimony likely will be necessary to demonstrate the relevance–and thus the admissibility–of the tests.

Specifically, an expert probably must testify as to the effect of both the ventilation and the actions of the persons present in the range and basement on the distance traveled by GSR particles. As stated by Robert S. White, a forensic scientist retained by defendants, "[g]unshot

residue is much smaller and lighter than dust and can be moved from one place to another . . . [i]t can easily become airborne . . . and is easily transferable from one object to another by touching." Motion in Limine at Exhibit 7. White specifically identifies the operation of cooling fans, sweeping, the movement of people and the concussion of a discharging gun as possible sources for the dislodging of ambient GSR within the pistol range. *See id.* Given the potential for these variables to affect the distance traveled by GSR particles, plaintiffs must establish one of two things in order to demonstrate the relevance of the Holmesburg experiments.

First, they can show that there was no appreciable difference between the forces moving the air in the pistol range during the experiments and those in the basement on the morning of the shooting. Such a showing would not require expert evidence. A typical layperson unquestionably is capable of comprehending variations (or a lack thereof) in ventilation patterns or in human activity. Such is the fabric of our everyday experience, and it is precisely this sort of evidence that does not require an expert's knowledge.

Second, to the extent that there are distinctions in the forces moving air at the two sites at the times in question–as common sense dictates is likely the case–plaintiffs must establish that these variations would not be likely to affect the amount of GSR found on the 18 and 21 foot stubs. Stated alternatively, in order to establish the relevance of the Holmesburg tests, plaintiffs must demonstrate that these are distinctions that do not make a difference.

To determine whether any discrepancy in the forces moving the air in the two locations makes a difference in this case, it is necessary to know two things. First, we must discern the characteristics of the ventilation and the human activity in the range and in the

basement. As stated, such unquestionably is within a layperson's understanding. But second, we also must know whether these forces are likely to have affected the distance traveled by GSR emitted from the agents' weapons, and this requires an expert's knowledge of the characteristics of GSR. Indeed, it would be understandable for a juror, upon learning that GSR is comprised of barium, lead and antimony, see Motion in Limine at Exhibit 7, to assume that such would not be physically displaced by a mere air current. Moreover, the common meaning of the word "residue" is "something that remains after a part is taken, separated, removed, or designated: remnant." Webster's Third New International Dictionary 1932 (3d ed. 1981). A reasonable juror who is generally familiar with this definition, and having no reason to think that gunshot residue is different from any other residue, might well believe that GSR is something that remains affixed someplace after a gun is fired, and thus is not susceptible to dislocation by moving air. Indeed, it is linguistically counterintuitive that GSR actually is akin to dust in the sense that it is easily disturbed and moved.

Notably, nothing within this discussion is intended to indicate that the conditions in the pistol range were not substantially similar to those present in the basement. It could be that the ventilation was not functioning during the experiments, that it was not operating with sufficient force to affect the GSR particles in the range, or alternatively that the conditions in the basement exerted a similar effect on the particles as did those in the range. But an expert is needed to testify as to such. Thus, while a reasonable juror is capable of comprehending the facts that a certain ventilation pattern was present and that given human activity transpired during the experiments, she would not be "as capable of . . . drawing [a] correct conclusion[]" as to the effect of these variables on GSR particles as would be an individual with an expert's familiarity

with the properties of GSR. *Oddi*, 234 F.3d at 159.

In sum, then, defendants' lack of an expert mandates that I grant defendants' motion because expert testimony is needed to establish that 1) the substance found on the stubs actually is GSR; and 2) the ventilation patterns and human activity within the Holmesburg range and the basement were not so dissimilar that the experiments are rendered irrelevant as evidence of the source of the GSR particles on Kenneth Griffin's right hand.[10]

B. The Experiments' Relevance

As defendants note, it is necessary for plaintiffs to demonstrate that the tests are relevant as evidence that the GSR found on Kenneth Griffin's hand came from the guns tested. In essence, defendants' argument is that, setting aside the above-described contentions as to the need for an expert, the conditions affecting air currents on the range were so dissimilar from those in the basement that the experiments are irrelevant as evidence of the source of the GSR particles on Griffin's hand. Despite having had ample opportunity to do so, plaintiffs have presented no evidence on the "substantial similarity" question. As such, defendants' relevancy argument is in effect uncontested, and thus constitutes an independently sufficient basis for

[10] I am cognizant of plaintiffs' assertion that "[d]efendants have noted the identities of several witnesses–two Assistant District Attorneys and at least six other law enforcement and ballistics personnel–who are available to validate the procedures of the gunshot residue test at trial . . . ." Joint Response ¶ 10. Yet they provide no indication that they are prepared to call an expert to confirm either that the chemical composition of the substance found on the stubs was in fact GSR or that the conditions in the pistol range were substantially similar to those in the basement. As such, it does not appear that the testimony of these law enforcement and ballistics personnel would rectify the problems identified above.

granting their motion.

C. The Experiments' Reliability

Defendants argue that even if plaintiffs were to present expert testimony to the effect that the GSR on the 18 and 21 foot stubs came from the agents' guns, there is no way to genuinely verify this, and that such testimony consequently would be unreliable. They also contend that the absence of a control undermines the tests' reliability, and that this also renders the experiments inadmissible under Fed. R. Evid. 702 and *Kuhmo Tire*.

Preliminarily, as stated above, certain critical aspects of the Holmesburg experiments–in particular, the identity of the substance on the 18 and 21 foot stubs and the effect on GSR particles of the forces moving air in the basement and range–must be introduced via expert testimony if the tests are to be deemed admissible. Yet plaintiffs are not prepared to present such evidence. Because this–like defendants' relevancy argument–is an independently sufficient basis on which to grant defendants' motion, it is unnecessary to address defendants' contentions as to reliability.

I note, however, that defendants' contentions as to reliability are predicated on the assumption that the experiments must be introduced via expert testimony. *Compare* Fed. R. Evid. 702 (requiring that expert evidence be the product of "reliable principles and methods") *with* Fed. R. Evid. 701 (permitting the introduction of a lay opinion provided only that such is "a) rationally based on the perception of the witness; [and] b) helpful to a clear understanding of the witness' testimony or the determination of a fact in issue."). Again, this assumption is well-

founded insofar as plaintiffs seek to establish that the substance found on the 18 and 21 foot stubs was in fact GSR and that the conditions in the basement and range were substantially similar. Indeed, even were plaintiffs to conduct a controlled experiment of the sort described above, both of these showings would necessarily be made to demonstrate the relevance of the tests, and by their natures would need to be introduced via expert testimony. As such, they would be subject to the reliability requirement contained in Fed. R. Evid. 702. *See Weisgram v. Marley Co.*, 528 U.S. 440, 446 n.3 (2000) (describing a expert's testimony as "unreliable, and therefore inadmissible under Federal Rule of Evidence 702, as explicated in *Daubert* . . .").

By contrast, the undertaking of a properly controlled experiment would eliminate the need to prove by expert evidence that the GSR on the 18 and 21 foot stubs was ejected by defendants' weapons. *See supra*. Therefore, the presentation of the results of this experiment would likely be governed by Fed. R. Evid. 701, and thus not subject to the reliability requirement outlined in Fed. R. Evid. 702 and *Daubert/Kuhmo Tire*. As explained by the Third Circuit, any concern with the methodological basis for such lay opinion testimony would "affect[] the weight, not the admissibility, of the evidence." *Asplundh Mfg. Div. v. Benton Harbor Eng'g*, 57 F.3d 1190, 1200 n.11 (3d Cir. 1995) (citing *United States v. Myers*, 972 F.2d 1566, 1577 (11th Cir. 1992)).

Accordingly, had plaintiffs conducted a properly controlled experiment, and had they also presented expert evidence as to the identity of the substance on the 18 and 21 foot stubs and as to the relevance of the experiments–all of which would be necessary to remedy the shortcomings identified in this memorandum–defendants would be free to challenge on reliability grounds the admissibility of this expert testimony. However, they would lack a legal basis on

which to bring such a challenge to the conclusion that the GSR on the 18 and 21 foot stubs was ejected from the agents' weapons.[11]

D. The Experiments' Probative Value and Their Prejudicial Effect

Like other forms of evidence, an experiment is inadmissible if it is more confusing or unduly prejudicial than it is probative. *See* Fed. R. Evid. 403; *McCormick on Evidence* § 202 ("Pretrial experiments will be admitted as evidence if their probative value is not substantially outweighed by the usual counterweights of prejudice, confusion of issues and time consumption . . . . As for probative value, the courts often speak of the need for similarity between the conditions of the experiment and those that pertained to the litigated happening"). However, it is unnecessary for the court to address the argument raised by defendants pursuant to Rule 403 because, as stated, plaintiffs' lack of a GSR expert and defendants' relevancy argument are independent, sufficient bases on which I will grant defendants' motion.

An appropriate order follows.

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[11] This of course, is inapposite to the relevance determination. If the conditions in the range, e.g., ventilation and human activity, are sufficiently dissimilar from those in the basement at the time of the shooting, then even a controlled experiment would be inadmissible. Moreover, even if the conditions in these two loci are sufficiently similar to render the tests relevant within the meaning of Fed. R. Evid. 401, this does not insulate the experiments against a challenge pursuant to Fed. R. Evid. 403.

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v.	:	CIVIL ACTION
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Order

And now, this ____ day of May, 2002, upon consideration of defendants' motion in limine to preclude the admission of the Holmesburg "experiment" and any testimony concerning the "experiment" and its putative results (Doc. # 120) and plaintiffs joint response and memorandum of law in response thereto (Doc. # 132), and after conducting a hearing thereon, it is hereby ORDERED that defendants' motion is GRANTED.

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William H. Yohn, Jr., Judge